

Chapter II- THE D/KC MPO STUDY AREA CHARACTERISTICS AND PROJECTED CONDITIONS

General Area Characteristics

The D/KC MPO metropolitan planning area consists of Kent County, Delaware. As the middle of the three counties in the state of Delaware, Kent County is situated between New Castle County to the north and Sussex County to the south. Although the Dover, Delaware Urbanized Area (UA) (which established the D/KC MPO after the 1990 US Census) located in the middle of Kent County and extends (after the 2010 Census) just north into New Castle County, the D/KC MPO is still responsible for the whole of Kent County. The small portion of the Dover, Delaware UA that extends into New Castle County is supported by WILMAPCO (the MPO responsible for New Castle County) through an agreement.

The Dover / Kent County Metropolitan Planning Organizations (D/KC MPO) metropolitan planning area is located within the whole of Kent County, Delaware. Kent County is the middle of three Counties in Delaware and is situated between the predominantly rural Sussex County to the south and the more intensely developed New Castle County to the north. All three counties have unique land use and transportation planning challenges however, the commonality between all three counties is the fact that the Delaware Department of Transportation (DelDOT) is responsible for 90% of all roads within the State of Delaware (DelDOT Annual Report and Transportation Facts, 2018, pp. 4).

Data

An important aspect to the MTP planning process includes obtaining and analyzing data to assist in the development of MTP's and specifically in this instance, the Innovation 2045 MTP Update. Although a variety of federal, state, regional, and local agencies data and planning studies were collected and reviewed to ensure the latest available information was used in the Innovation 2045 MTP, the majority of data used throughout this document came from existing documents as referenced throughout this MTP. For example, transportation related data for the most part was retrieved from [DelDOT documents and](#)

[publications](#). These documents were extensively utilized as well as the May 3, 2019 Delaware Long Range Transportation Plan (Innovation in Motion). Another example regarding land use data, was the use of recent local comprehensive plans, especially the [2019 City of Dover Comprehensive Plan](#) and the [2018 Kent County Comprehensive Plan](#). As described in Chapter 1, the use of recent local transportation and land use data from our federal, state, regional, and local agencies provides another opportunity to ensure we link and fuse our D/KC MPO partners long range goals and objectives. One challenge however, was the fact that many of our partners used a variety of time periods (i.e. annual, bi-annual, four-year, five-year, ten-year, twenty-year trends, etc....) to show their data trends.

The D/KC MPO staff used a different approach to show data trends in Kent County, Delaware. Rather than list data trends which have occurred each year since the last D/KC MPO MTP (2017, 2018, 2019, and 2020) Update (Vision 2040 which was approved in January 2017), the D/KC MPO staff used annual data which corresponds with our previous MTPs (1996, 2001, 2005, 2009, 2013, and 2017). Understanding that data trends may fluctuate from any given year to the next, using previous MTP years as data collection points might provide a better long range analysis perspective regarding the effectiveness of projected conditions over a longer period. For example, the chart below provides vehicular, bicycle, and pedestrian crash data from the [Delaware Annual Traffic Statistical Reports](#) for the MTP years 2005, 2009, 2013, and 2017 (note: there are no reports listed on-line for MTP years 1996 and 2001).

Dover/Kent County MPO Region Crash data by MTP Year							
	1996	2001	2005	2009	2013	2017	4 or 5 year average
Kent County Population	121,646	129,021	143,577	158,038	169,150	176,824	N/A
Registered automotive licenses							
Registered motorcycle licenses							
Fatal Crashes and Fatalities- Crashes			29	17	13	21	20
Fatal Crashes and Fatalities- Deaths			37	22	14	23	24
Personal Injury Crashes			955	852	923	1012	935.5
Property Damage Crashes			1609	2406	2392	3117	2381
Injuries			1465	1249	1333	1599	1426.5
Alcohol Related Fatal Crashes and Fatalities- Crashes			15	7	6	10	8.5
Alcohol Related Fatal Crashes and Fatalities- Deaths			20	9	7	12	12
Alcohol Related Injuries			189	107	151	95	135.5
Alcohol Related Injury Crashes			123	83	89	69	91
Alcohol Related Property Damage Crashes			117	130	130	109	121.5
Motorcycle Crashes		51	76	58	73	61	63.8
Motorcycle Fatalities		2	5	2	5	1	3
Motorcycle Injuries		48	50	43	49	44	46.8
Bicycle Crashes			16	18	17	26	19.25
Bicycle Fatal Crashes			0	2	0	1	0.75
Bicycle Injuries			16	18	15	20	17.5
School Bus Crashes- Fatal		0	0	0	0	0	0
School Bus Crashes- Injured		8	4	4	5	13	6.8
School Bus Crashes- Property Damaged		11	12	6	19	21	13.8
Pedestrians Killed			4	2	1	6	3.25
Pedestrians Injured			28	26	37	39	32.5

Lastly, the data collected and shown throughout this MTP update will use the same color to represent that MTP year. These colors correspond to our geographic information system (GIS) map layers regarding previous MTP projects and other data indices used to represent each MTP year our Innovation 2045 MTP Update Interactive Map and storyboard. For example, spreadsheet columns and GIS map icons use gray for 1996; orange for 2001; green for 2005; blue for 2009; purple for 2013; red for 2017; and yellow for current year data.

Covid-19 Pandemic

During the time Innovation 2045 MTP Update data was being collected and used in drafting this document, the global community experienced the worst pandemic since the 1918 Influenza outbreak. According to the Center of Disease Control (CDC), [Covid-19 was first identified](#) in Wuhan, Hubei Province, China and quickly spread throughout the world and into the United States with the [first US case](#) diagnosed on January 21, 2020 in Washington State. In Delaware, Governor Carney declared a State of Emergency on March 13, 2020, which was updated several times and included a stay at home order for citizens and non-essential workers until May 15, 2020 and later extended until June 1, 2020. In essence, the entire global community was affected and specific to this MTP update, data results typically used to show economic, health, community, land use, and transportation trends showed a wide range of results. Data trends such as vehicular use, mass transit use, freight activity, pedestrian and bike statistics, traffic accidents, etc.... from March 13, 2020 in Kent County, Delaware have been impacted and these changes where applicable, were considered when drafting the following study area characteristics and projected conditions. Additionally, local land use best practices of community design with higher density neighborhoods with mass transit (buses) appear contrary to the current (as of April 2020) Federal Government recommendation to use social distancing and avoid large gatherings. These are important aspects, which have affected the data collected for this update and may affect future transportation projects identified in the Innovation 2045.

Population

Understanding demographic changes in Kent County, Delaware is important in developing cogent transportation strategies. Demographic shifts can also influence Land Use and Employment strategies, which are also important considerations when developing metropolitan transportation plans. Although Innovation 2045 was being developed at the same time as the 2020 Census, the last official census figures used in this MTP were from the 2010 Census as updated by the Delaware Population Consortium. Once the 2020 Census has been completed and updated population counts finalized, amendments to Innovation 2045 may be considered. Until that time, the Delaware Population Consortium demographic information was the primary population source used in this MTP.

Delaware Population Consortium demographic data for the D/KC MPO area are in the Annual Population Projection reports, which can be found on the Delaware Office of State Planning Coordination (OSPC) [web page](#). The most recent report is dated October 31, 2019 and in addition to including a nice summary about how the Delaware Population Consortium was established and the methodology used for Kent County, Delaware population projections are found on pages [A-12 through A-24](#).

These population projections help shape decisions on future land use and transportation projects and can be found in several transportation studies and local comprehensive plans. For example, on page I-20 in DelDOT's Long Range Plan (Innovation in Motion) there are several demographic changes shown for Kent County between 2015 to 2040. Specifically, the projected change in total population growth by the three counties in Delaware from 2015-2040 show:

- New Castle County with a 8.4% increase;
- Kent County with a 16.8% increase; and
- Sussex County with a 20% increase

Although population information in various transportation long range plans and local comprehensive plans are a good starting point, the D/KC MPO staff primarily used demographic information found within the Delaware Population Consortium Annual Population Projection report dated October 31, 2019. Moreover, the population

projections known for any of the D/KC MPO MTP years (1996, 2001, 2005, 2009, 2013, and 2017) were also used to record historical population changes over a longer period as seen in the chart below. Lastly, since this MTP Update goes out to the year 2045 (hence the name, Innovation 2045), population projection changes will be shown as a comparison from the year 2020 and year 2045. ded data which went back to 2001 for specific types of traffic crash types).

	1996	2001	2005	2009	2013	2017	2020	2045	2020-2045 % Increase
Kent County	121,646	129,021	143,577	158,038	169,150	173,900	178,650	187,714	5%
New Castle County	?	501,856	520,023	539,642	552,592	558,686	564,780	581,937	3%
Sussex County	?	157,459	175,409	187,870	213,704	224,027	234,350	280,007	16%

Note: Census data in 5 year increments as depicted in 2019 Delaware Population Consortium Report. MTP year 2001 used 2000 census data; 2009 used 2010 data; 2013 used 2015 data; 2017 used mid point increase from 2015 and 2020.

By using population projections from 2020 out to 2045, overall Kent County, Delaware population's projection changes may be different from those depicted in other long range and comprehensive plans such as the 2019 DelDOT Long Range Transportation Plan, which used population projections from 2015 out to 2040.

	2020	2020 % of State Population	2045	2045 % of State Population	Difference	% Change
New Castle	564,780	58%	581,937	55%	17,157	3%
Kent	178,650	18%	187,714	18%	9,064	5%
Sussex	234,350	24%	280,658	27%	46,308	16%
Totals	977,780	100%	1,050,309	100%	72,529	7%

As the chart above shows, the 2045 Kent County, Delaware population changes as projected by the Delaware Population Consortium show Kent County remaining the smallest populated County in Delaware maintaining an 18% portion of the state population for 2020 and 2045 but with a 5% overall Kent County population increase as compared to the 2020 projections. Regarding the Kent County population who are 16 years and older (potential driver license holders), there is a 2% increase in the potential driver license holder population. The chart below highlights in brown the age categories that could be potential driver license holders. These age categories made up 81% of the 178,650 Kent County population in 2020 and 83% of the 187,714 Kent County population projected for 2045.

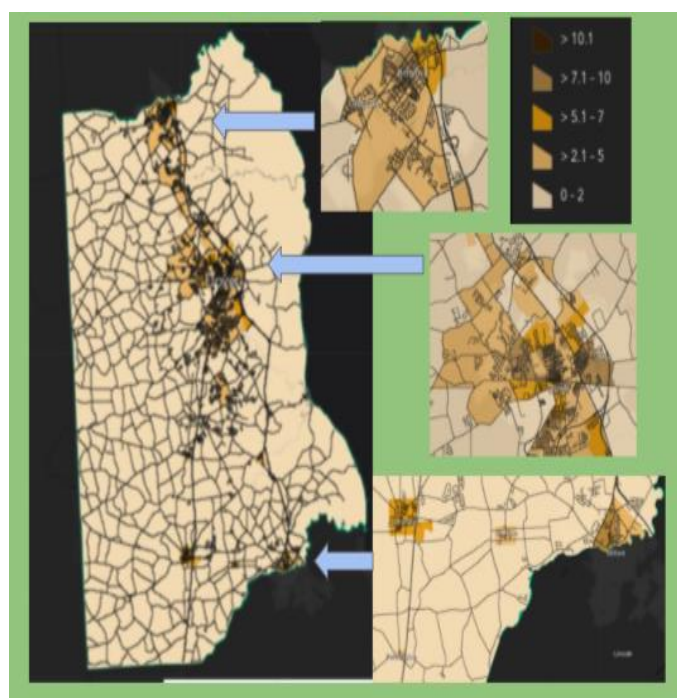
	2020	2025	2030	2035	2040	2045	2020-2045 change
0 - 4	10,870	10,574	10,462	10,450	10,479	10,414	-4%
5 - 9	11,289	10,909	10,660	10,593	10,584	10,618	-6%
10 - 14	11,740	11,352	11,008	10,807	10,745	10,741	-9%
15 - 19	11,983	11,824	11,440	11,133	10,938	10,890	-10%
20 - 24	11,696	12,043	11,934	11,562	11,254	11,068	-6%
25 - 29	13,124	11,731	12,137	12,074	11,682	11,370	-14%
30 - 34	12,678	13,137	11,792	12,256	12,200	11,785	-8%
35 - 39	11,040	12,675	13,170	11,881	12,362	12,320	+11%
40 - 44	10,011	11,020	12,687	13,218	11,944	12,444	+20%
45 - 49	10,172	9,960	11,010	12,708	13,228	11,977	+16%
50 - 54	11,143	10,052	9,893	10,979	12,659	13,163	+16%
55 - 59	11,871	10,854	9,845	9,745	10,812	12,456	+5%
60 - 64	10,922	11,374	10,453	9,528	9,450	10,483	+5%
65 - 69	9,037	10,196	10,663	9,845	8,991	8,938	-2%
70 - 74	7,983	8,092	9,180	9,632	8,899	8,141	+2%
75 - 79	5,829	6,738	6,867	7,829	8,212	7,602	+24%
80 - 84	3,812	4,507	5,246	5,373	6,130	6,428	+61%
85 & up	3,450	4,003	4,755	5,642	6,151	6,876	+50%
Totals	178,650	181,041	183,202	185,255	186,720	187,714	+5%

The chart above provides some interesting projections when comparing each age category in 2020 and 2045. The 2045 total projections in all age categories between 0 and 34 which represent 76,896 (or 41%) of the projected 187,714 population count, show **decreases** when compared to the same 2020 categories whereas age categories between 35-64 which represent 72,843 (or 39%) in the 2045 population projections show increases. The age category 65-69 which represents 8,938 (or 5%) in the 2045 population projections show a **decrease** when compared to the 2020 projections however, the age categories 70 and up which represent 29,047 (or 15%) of the 2045 population projections show **increases** over the 2020 categories. In fact, the 2020 projections for age categories 70 and up represent 21,074 (or 12%) of the total 178,650 projection and the 2045 projections for these same categories show these population groups as increasing to 15% of the population in Kent County, Delaware. The Delaware Population Consortium also provides input into how these demographic figures are geographically displayed.

It is important to note that Delaware's population is projected within geographic areas called, "Traffic Analysis Zones" (TAZs). TAZ's are considered to be special areas delineated by state and/or local transportation officials for tabulating traffic-related data especially journey-to-work and place-of-work statistics. A TAZ usually consists of one or more census blocks, block groups, or census tracts. For the 1990 census, TAZs were defined as part of the Census Transportation Planning Package (CTPP).

The U.S. Census Bureau first provided data for TAZs in conjunction with the 1980 census, when it identified them as "traffic zones."

Each of Delaware's three counties have TAZs and their population projections help predict transportation infrastructure (roads, sidewalks, bike lanes, traffic signals, etc....) and land use (residential and commercial subdivisions, municipal annexations, employment areas, etc....) needs. The D/KC MPO used population projection changes within Kent County TAZ's out to 2050 in order to identify specific population increase locations, which need to be considered when proposing Innovation 2045 MTP transportation projects.



2050 TAZ Location Changes

In summary, it is projected that Kent County will have a 5% overall population increase out to 2045. When comparing Kent County's 2045 projections to 2020 projections, the following points are noted:

- School age (23% of the 2045 population) categories from 0-19 decreased Kent County with a 16.8% increase;
- Young working age (18% of the 2045 population) categories from 20-34 decreased;
- Working age (33% of the 2045 population) categories from 35-59 increased;

- Retirement age (26% of the 2045 population) categories from 60-64 and 70 up show increases whereas the 65-69 category decreased; and
- TAZ changes occur in the southern portion of the City of Dover along the route 13 corridor, the western portion along north side of route 8, and between route 13 and SR1 in the northeastern portion of the city; in the City of Harrington; the town of the northeastern portion of the city, in the City of Harrington; the town of Houston; the town of Farmington and in the City of Milford along the western side of Walnut Street.

Economic Activity, Employment, and Labor Force

As briefly described in Chapter 1, the D/KC MPO has no legislative authority over federal, state, regional, or local governments especially about economic development. However, by using the 3-C (continuing, cooperative, and comprehensive) transportation planning process, the D/KC MPO ensures transportation project considerations include a shared economic vision and goals for the D/KC MPO Planning Area. The Kent County, Delaware economic vision and goals are best described by the [Kent Economic Partnership](#), which provide economic profiles for Kent County, Delaware, the [Greater Kent Committee](#) who identify emerging community economic issues, the [Central Delaware Chamber of Commerce](#) (CDCC) who promoting civic, industrial, commercial, agri-business and social economic interests of the community, and the [Delaware Prosperity Partnership](#), who provide a link between State and Kent County economic goals and vision. Although these four organizations provide specific Kent County goals and visions regarding economic development in the D/KC MPO Planning Area, definitions on economic development are very similar throughout the United States. However, before identifying future employment goals and initiatives, current employment data for Kent County provides the economic development baseline.

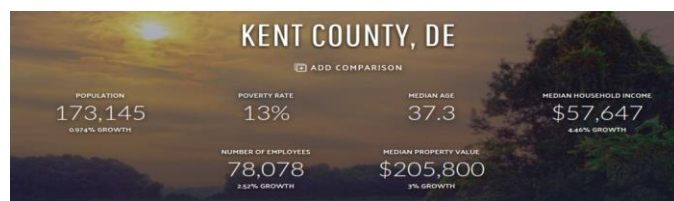


Image came from the [Data USA website](#)

Current employment occupational data shows that “from 2016 to 2017, employment in Kent County grew at a rate of 2.52%, from 76.2k employees to 78.1k employees. The [most common job groups](#), by number of people living in Kent County, Delaware, are Office & Administrative Support Occupations (10,292), Sales & Related Occupations (7,620), and Management Occupations (7,487)”.

Regarding occupations in Kent County, the “most common employment sectors for those who live in Kent County, DE, are Health Care & Social Assistance (11,889 people), Retail Trade (10,982 people), and Public Administration (8,069 people). This chart shows the share breakdown of the primary industries for residents of Kent County, though some of these residents may live in Kent County and work somewhere else. Census data is tagged to a residential address, not a work address” ([datausa profile for Kent County, Delaware](#)).

Another employment baseline data point which is related to road use is commute time. According to the [datausa profile for Kent County, Delaware](#), “employees in Kent County have a longer commute time (25.2 minutes) than the normal US worker (25.1 minutes). Additionally, 3.2% of the workforce in Kent County, DE have “super commutes” in excess of 90 minutes. Furthermore, in 2017, the most common method of travel for workers in Kent County was driving alone (82.1%), followed by those who carpoolled (9.64%) and those who worked at home (4.18%).”

Understanding the current Kent County economic activity baseline will provide a better insight as to D/KC MPO partner’s economic development goals. Simply stated, “the goal of economic development should be to put a region on a path to higher growth by improving the productivity of firms and people in ways that leads to better incomes and living standards for all” (Brookings, p1). Furthermore, “economic development is a process of targeted activities and programs that work to improve the economic wellbeing and quality of life of a community by building local wealth, diversifying the economy, creating and retaining jobs, and building the local tax base” (Vail Valley Partnership, p1). Specific to transportation planning however, economic development includes “investments in

infrastructure systems (roadways, bridges, transit, railroads, water, sewer, intermodal connectors and telecommunications systems) result in higher property values and quality-of-life improvements, affect business decisions and connect communities into thriving regional economies” (NACO, p.8). One of the objectives for Innovation 2045 MTP and this section of Chapter II is to align Kent County transportation projects and policies with Kent County economic development goals.

In addition to linking future transportation projects which support economic initiatives from our D/KC MPO Federal, State, Regional, and Local partners, the D/KC MPO considers specific economic planning programs such as the Smyrna, Dover, and Milford [Opportunity Zones](#), and [Kent County Employment Center Master Plans](#). In addition to these economic program initiatives, current employment figures (as seen in the chart below) and commercial zoning locations were analyzed in order to determine future transportation road projects and studies which support our D/KC MPO Partners long range economic goals. As part of Innovation 2045 MTP, an interactive mapping program was developed to help Kent County public, private, and governmental members visualize and compare past, current, and predicted transportation related data and projects to ensure we leverage transportation and economic goals.



As mentioned previously in this chapter, the Covid-19 Pandemic had a major impact on our national economic status by reducing demand in the world economy and complicates supply chains, and the drop in equity prices lowers household wealth to an extent that would have caused a sizable slowdown in the U.S. economy (Brookings, 2020 P.1). The Labor Force chart above provides a picture regarding the unemployment rate in Delaware over

the past twenty years. Delaware's unemployment rate began to rise in March 2020 that corresponds to the Covid-19 pandemic. A summary of the economic activity in D/KC MPO Planning Area (Kent County, Delaware) before Covid-19 will be provided as well as any predictions going out to 2045. Pre-Covid-19 summaries are found in many of the D/KC MPO partner's current comprehensive plans, especially the Kent County and City of Dover comprehensive plans.

Chapter 2 of the Kent County Comprehensive Plan developed by the Kent County Levy Court's Planning Services Department in 2018, provides a very thorough summary of Kent County's economic activity prior to Covid-19 as seen in the chart below. In addition to providing a summary of economic trends in Kent County, the comprehensive plan described their future economic development analysis and strategic plan, which was developed by Rockport Analytics. The take away point was that Kent County should target (1) Business and Legal Services (Computer design & programming, Scientific, R&D Services, Employment/HR Services, Advertising/PR, Legal Services, Accounting Services, Building Services; (2) Distribution, Warehousing, Logistics (Wholesale Trade, Logistics & Trucking, Warehousing & Storage); and (3) Health Care (Offices of Physicians, Outpatient Care Facilities, Nursing & Community Care, Medical & Diagnostic Labs).

The second largest D/KC MPO partner is the City of Dover, which included an Economic Development Plan within their 2019 Comprehensive Plan. The City of Dover provided a very detailed economic development plan (Chapter 10) as well as providing labor force projections (Chapter 3) within their 2019 Comprehensive Plan (the chart below provides an example of labor force projections). Going forward however, the City of Dover listed seven goals as part of their economic development plan: Goal 1: Attract and Retain High-Paying Quality Jobs by Targeting Business Sectors that are Best Suited for Dover and Kent County Goal 2: Encourage the Economic Revitalization and Integrity of Dover's Downtown, including the Historic Core and the Traditional Communities Surrounding It Goal 3: Promote the Revitalization and Redevelopment of the Center City Goal 4: Ensure that Land Development, Zoning, Infrastructure and Other Development Requirements Encourage the Economic Development and Uses Desired Goal 5: Actively market the Garrison Oak Business and Technology Center (GOBTC) Goal 6: Pursue Economic Development Linked to Active Recreation Goal 7: Pursue Economic Development Linked to Improved Healthy Food Access.

All Occupation Kent County in 2018	Employment	Median Hourly	Mean Hourly	Mean Annual
00-0000 Total all occupations	63,240	\$17.34	\$21.69	\$45,125
11-0000 Management	2,240	\$48.74	\$53.02	\$110,274
13-0000 Business & Financial Operations	2,720	\$28.55	\$30.99	\$64,460
15-0000 Computer & Mathematical	1,050	\$33.83	\$35.95	\$74,769
17-0000 Architecture & Engineering	820	\$31.52	\$33.11	\$68,863
19-0000 Life, Physical & Social Science	640	\$28.49	\$32.12	\$66,804
21-0000 Community & Social Services	1,330	\$20.93	\$22.49	\$46,782
23-0000 Legal	480	\$32.17	\$45.04	\$93,689
25-0000 Education, Training & Library	4,660	\$25.98	\$26.99	\$56,132
27-0000 Arts, Design, Entertainment, Sports & Media	520	\$18.66	\$22.52	\$46,840
29-0000 Healthcare Practitioners & Technical	4,200	\$31.39	\$37.35	\$77,687
31-0000 Healthcare Support	1,900	\$14.02	\$15.16	\$31,536
33-0000 Protective Service	1,530	\$19.32	\$23.32	\$48,499
35-0000 Food Preparation & Serving-Related	6,640	\$10.11	\$11.81	\$24,573
37-0000 Building & Grounds Cleaning & Maintenance	2,250	\$12.51	\$13.50	\$28,087
39-0000 Personal Care & Service	2,300	\$11.47	\$13.62	\$28,324
41-0000 Sales & Related	6,840	\$11.98	\$15.95	\$33,176
43-0000 Office & Administrative Support	9,640	\$16.18	\$17.32	\$36,028
45-0000 Farming, Fishing & Forestry	150	\$16.07	\$18.18	\$37,814
47-0000 Construction & Extraction	2,140	\$19.42	\$21.76	\$45,251
49-0000 Installation, Maintenance & Repair	2,560	\$21.98	\$22.50	\$46,803
51-0000 Production	3,230	\$15.30	\$17.66	\$36,729
53-0000 Transportation & Material Moving	5,420	\$15.54	\$17.32	\$36,026

• NA in employment means the estimate doesn't meet publishability standards, but the wage estimates do.
 • N/A in one of the wage fields signifies that a large portion of the responses are in the highest, unbounded wage category and a valid wage estimate is not possible.
 • NA in one of the fields signifies that there is no data available for the parameter/variable/period. There is, however, data available.

Frequency: Annual	Source: Delaware Department of Labor	Publisher: Delaware		Annual Growth
Department of Labor	Units: Employees	Release date: 7/11/2019		
Kent County: Long-Term Industry Projections	2016	2026	Rate	
Total Employment, All Jobs	71,730	75,250	0.5%	
Total Self-Employed & Unpaid Family Workers, Primary Job	3,090	3,380	0.9%	
Self-Employed Workers, Primary Job	3,020	3,310	0.9%	
Unpaid Family Workers, Primary Job	70	70	0.0%	
11Ag, For. Fishing	1,590	1,520	-0.4%	
21Mining	40	40	0.0%	
22Utilities	280	290	0.4%	
23Construction	2,530	2,690	0.6%	
31Manufacturing	4,870	4,540	-0.7%	
42Wholesale Trade	1,060	1,050	-0.1%	
44Retail Trade	9,440	9,270	-0.2%	
48Transportation & Warehousing	2,480	2,770	1.1%	
51Information	370	330	-1.1%	
52Finance & Insurance	1,250	1,360	0.8%	
53Real Estate & Rental & Leasing	420	440	0.5%	
54Professional & Technical Services	1,940	2,130	0.9%	
55Management of Companies & Enterprises	260	240	-0.8%	
56Administrative & Waste Services	2,120	2,410	1.3%	
61Educational Services	6,660	7,030	0.5%	
62Health Care & Social Assistance	10,080	11,030	0.9%	
71Arts, Entertainment & Recreation	2,790	3,050	0.9%	
72Accommodation & Food Services	5,590	6,130	0.9%	
81Other Services, Except Public Administration	2,960	3,230	0.9%	
Government	11,910	12,320	0.3%	
Federal Government, Excluding Postal Service	1,480	1,460	-0.1%	
State Government, Excluding Education & Hospitals	9,370	9,750	0.4%	
Local government, Excluding Education & Hospitals	1,060	1,110	0.5%	
Source- Delaware Department of Labor at website lmi.delawareworks.com				

In addition to the D/KC MPO Partners economic goals listed in comprehensive plans, projected economic activity data points can be found at the [Delaware Department of Labor's Office of Occupational and Labor Market Information](#). For example, the above referenced chart provides the annual growth rate of Kent County, Delaware jobs from 2016 to 2026. Like many other economic data, tracking elements found on the Delaware Department of Labor website, this information was pre-Covid-19.

In summary, although the economic goal for many of our the D/KC MPO partners is to create a variety of opportunities for good paying jobs in Kent County, it appears Transportation and Warehousing opportunities at a 1.1% annual growth rate along with Administrative and Waste Services at a 1.3% annual growth rate provide a future projection regarding the businesses which could be profitable in Kent County, Delaware. Job data information into the future, along with identified geographic areas (i.e. opportunity zones, employment centers, shovel ready commercial sites, etc....) from our D/KC MPO partners comprehensive plans can help identify locations where future transportation road projects can best support identified economic development in Kent County, Delaware.

Highways/Roadway Systems

The Delaware Department of Transportation (DeIDOT) is responsible for maintaining nearly 90% of roads within the D/KC MPO planning area (D/KC MPO 2017 MTP, P.6). Delaware owns and maintains roads in Kent County Delaware ranging from freeways (i.e. Delaware Route 1) to collector roads (i.e. Route 12) to hundreds of local roads that dominate the rural areas of the D/KC MPO planning area.

As the chart below shows, the amount of road miles per type of road in Kent County, Delaware ranges from zero interstate roads to 1,567.09 local road miles with the total number of road miles at 24% when compared to Statewide figures. This chart also shows how the number of daily vehicle miles traveled (DVMT) in each of the previous D/KC MPO MTP years has increased but remained at 17% when compared to Statewide DVMT figures.

Previous D/KC MPO MTP Year	Road miles (rural and urban) in Kent County Delaware by Road Classification										Daily Vehicles Miles Traveled		
	Interstate	Other Freeways	Other Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local	Total	Total State Miles	Percent of KC Rds to State	KC Daily vehicle miles traveled	Total State DVMT Miles	Percent of KC Rds to State
1996	0	57.9	75.06	261.83	918.41	1313.2	5,591.80	23%	1,179,315				
2001	0	9.75	50.44	76.64	231.32	34.91	949.88	1352.94	5,813.05	23%	3,809,012	23,466,117.00	16%
2005	0	10.13	50.06	111.98	182.66	86.69	992.82	1434.34	6,093.53	24%	4,545,409	25,989,692.00	17%
2009	0	20.00	37.00	115.00	170.00	90.00	1,070.00	1,510.00	6,337.00	24%	4,181,000	24,514,000	17%
2013	0	27.48	30.29	116.7	184.19	122.79	1,002.07	1,483.52	6,207.04	24%	4,517,772.54	26,218,936.92	17%
2017	0	27.48	30.29	119.55	185.18	122.79	1,081.80	1,567.09	6,452.45	24%	4,590,087.72	26,511,151.77	17%

Source: 11/21/19 e-mail from Mr. Jason Vogl (DeIDOT)

DeIDOT maintains State routes that traverse Kent County cities and towns. Local streets within the municipalities, such as Dover, Milford, Smyrna, Harrington, and Camden, are maintained by the local government. There are no County-maintained roads within Kent County, Delaware. As seen in the chart below, Kent County had 3,314 lane miles in 2018, 42% less than New Castle County and 33% less than Sussex County.

Figure A.2
LANE MILES IN DELAWARE, 2017-2018

	New Castle '17	New Castle '18	Kent '17	Kent '18	Sussex '17	Sussex '18
Interstate	257	257	0	0	0	0
Other Freeways & Expressways	132	134	110	110	0	0
Other Principal Arterial	555	557	120	120	497	497
Minor Arterial	396	394	292	292	115	112
Major Collector	521	524	376	376	732	732
Minor Collector	150	151	246	246	265	265
Local	3,675	3,679	2,164	2,170	3,352	3,356
Total Lane Miles	5,686	5,696	3,308	3,314	4,961	4,962

Source: DeIDOT Planning

Source: DeIDOT: 2018 Delaware Transportation Fact book

The Federal Highway Administration (FHWA) classifies all roadways based on the character of the traffic they carry (through versus local) and the degree of land access they allow. There are three functional classifications of roads- arterials, collectors, and local roads. Examples of arterials include U.S. 13 and Route 8 through the City of Dover, while collector roads include Route 9 in Little Creek and Route 42 in Cheswold. The vast majority of roads in the D/KC MPO planning area are classified as local roads, which are generally low-volume roads that primarily serve low-density land use. The map below shows the functional road classifications in Kent County Delaware.



Delaware Functional Classification

Functional Classification

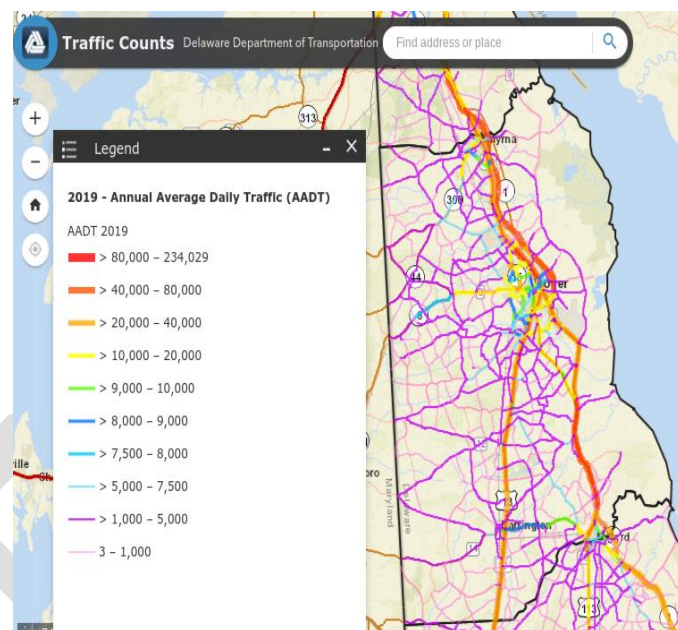
- Interstate
- Other Expressways & Freeway
- Other Principal Arterials
- Minor Arterial
- Major Collector
- Minor Collector
- Local

Map found at [DelDOT Gateway](#)

Roadways in the D/KC MPO planning area serve a variety of transportation needs. A majority of local roads within Kent County provides access primarily for agricultural vehicles and low-density residential uses, and has average daily traffic volumes of less than a 1,000 vehicles per day as seen in the chart below. State Routes in rural areas (primarily west of US 13) such as Route 300 southwest of Smyrna, Route 10 west of Camden, and Route 14 west of Harrington, provide both local and regional access for motorists, as well as facilitating freight movement via trucks and other commercial vehicles.

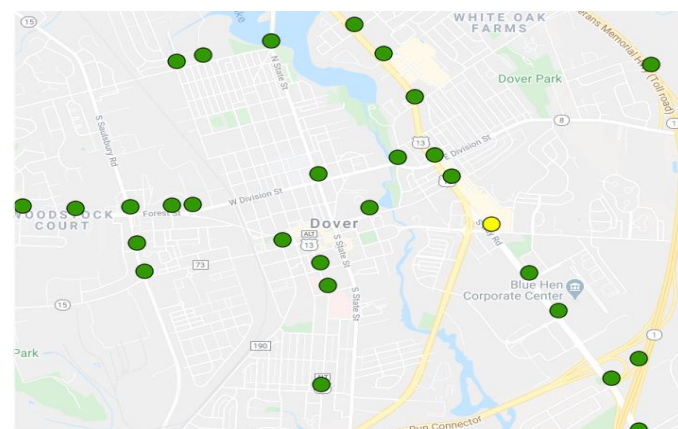
These routes generally have average daily traffic volumes between 1,000 to 5,000 vehicles per day. State Route 8 from the City of Dover west, also provides regional commercial freight access to and from the State of Maryland. The average daily traffic volumes vary from 7,500 to 20,000 vehicles per day. Kent County's North-South Routes US 13,

US 113, and Route 1 carry the highest traffic volumes between 20,000 and 80,000 average daily traffic.

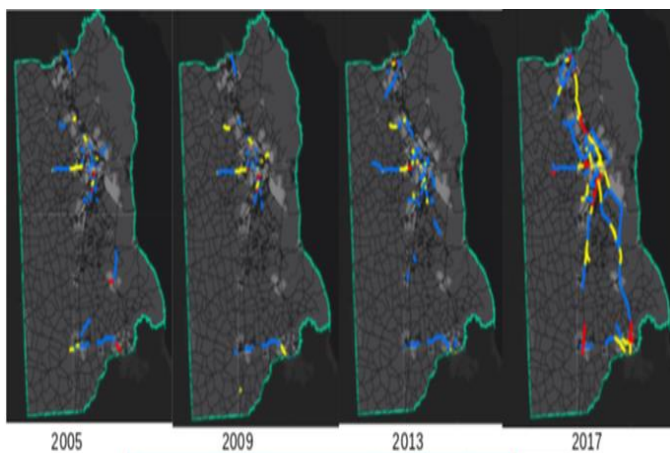


Map found at [DelDOT Gateway](#)

Generally, the existing highway network facilitates the movement of traffic in and around the county with few corridors that would be considered as operating at an unacceptable level of service (LOS). LOS is a classification based primarily on vehicular travel time delay, with LOS A representing free-flow conditions and LOS F indicating that traffic volumes exceed the roadway capacity to accommodate the traffic without significant queues. For the most part, LOS has improved at several traffic light locations with DelDOT's implementation of new technologies such as the computerized signal systems that determine appropriate signal demands as related to traffic demand as seen in the [illustration](#) below.



However, even with these new technologies, as land use (zoning) density, population, and motor vehicle use increase, these road systems may experience delay. Traffic delay not only impacts travel time of commuters, it increases vehicle emission levels at the delay site(s) as well as increases vehicle accident risk with stop and go traffic patterns. Lastly, LOS is used as a metric in evaluating future transportation projects regarding funding priority. The D/KC MPO uses a system called, “Decision Lens” which is thoroughly described in chapter _____. The objective is to use past and current LOS data trends to better predict where constrained road signals may be located out to 2045.



Kent County Level of Service over time in Road Miles							Total road miles D, E, F LOS
Previous D/KC MPO MTP Year	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F	
1996				6.1	0	1.38	7.48
2001				9.3	0.56	1.9	11.76
2005				27.98	6.36	3.2	37.54
2009				18.79	7.63	1.32	27.74
2013				39.09	9.43	1.35	49.87
2017				62.63	35.3	17.63	115.56

Source: D/KC MPO PDF LOS Maps

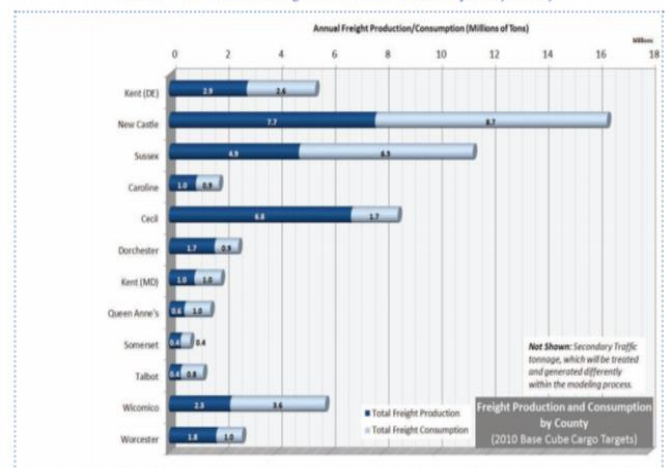
In summary, as land use and population increases within identified geographic areas in Kent County, future projections regarding Kent County highway and roadway systems start to emerge. As illustrated above, LOS and AADT are projected to be impacted primarily along Route 13 in Smyrna, Dover, and Harrington; Route 8 outside Dover; and Route 113 in Milford.

Freight System

“The movement of freight is a critical component to our region’s economy, and DeIDOT is committed to providing and enhancing freight-related transportation infrastructure” (DeIDOT, 2019, p.II-7). The D/KC MPO shares and supports DeIDOT’s commitment.

Baseline freight data for Kent County, Delaware comes from D/KC MPO partner’s comprehensive plans and transportation studies. However, a majority of freight information came from the 2015 Delmarva Freight Plan and the 2017 Freight Plan Addendum. The 2015 Delmarva Freight Plan “summarizes current and future freight planning and transportation needs to enhance freight and goods movement and related economic opportunities on the 14-county tristate area of the Delmarva Peninsula. It supports a regional perspective of freight flows, targets freight issues relevant to the local and regional economies, integrates commodity flow modeling and performance-based scenario planning, and ultimately provides insights to help inform future decision-making, freight infrastructure investments, and related policy guidance. The plan recognizes and supports the need for multimodal freight planning collaboration within regional jurisdictions and across economic corridors to enhance mobility at the local, state, multi-state, and national level.”

Exhibit 3.16 – Delmarva Freight Production and Consumption by County



Although the 2015 Delmarva Freight plan encompasses a multi-state, regional approach to freight planning, there is some Kent County specific data (annual freight production and consumption) compared to other counties included in this study

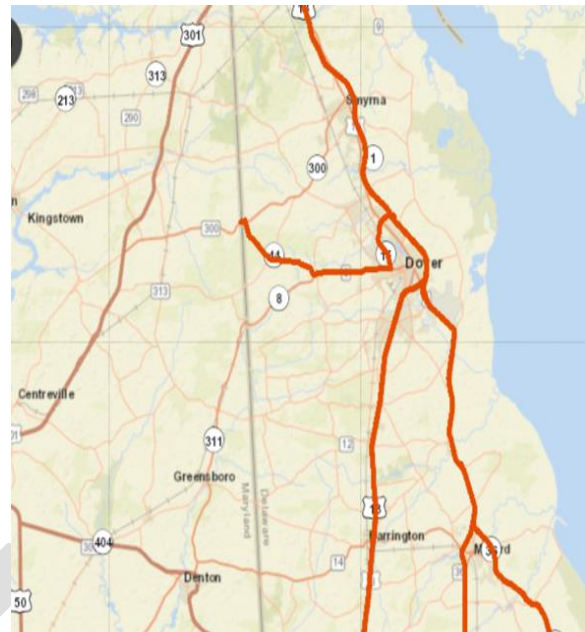
as shown in the below referenced chart found on page 55.

Based on research conducted as part of the Freight Plan, the vast majority (80%) of the freight in the region travels by truck. Primary freight commodities include chemicals, agricultural products, food products, coal and petroleum, and secondary traffic (which includes products delivered to retailers such as Wal-Mart). Agriculture remains the primary industry in Kent County, and the farming community is a major user of the highway and rail network to transport agricultural products for processing and receive imported grain for the poultry industry. Kent County is supportive of agriculture, and continues to look for ways to preserve and promote the agricultural industry, through farmland preservation efforts as well as initiating a Food Innovation District (FID) program to enhance the local food processing industry.

Kent County has several large industries that are heavily dependent upon the freight network for delivery of goods and products. These include the Wal-Mart Distribution Center in Smyrna, as well as Energizer-Playtex and Kraft Foods in Dover. The Dover Air Force Base is also a major military facility that is dependent upon the existing roadway network (particularly Route 1) for the delivery of military-related freight. In addition, trucks utilize U.S. 13 extensively for local freight deliveries to the hundreds of businesses that front the highway.

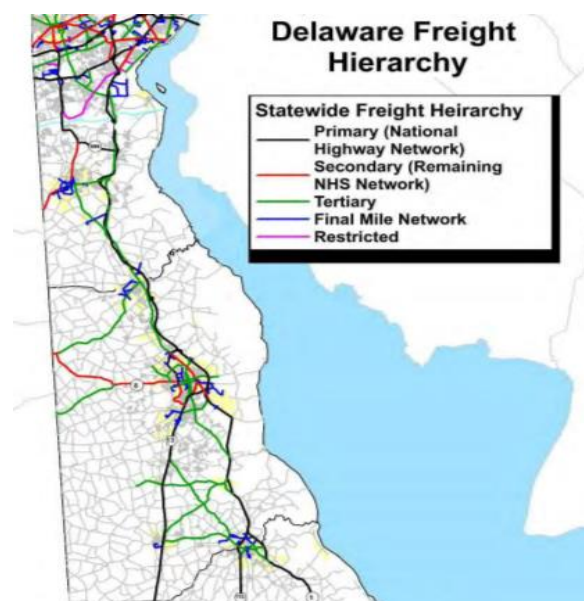
Norfolk Southern operates the region's only railroad facility. The rail line runs north-south through the entire county, with an east-west spur line between Harrington and Milford. Primary commodities include coal and agricultural products.

As noted in the Freight Plan, the region contains a robust network of highways that serve as primary freight routes. The Freight Plan denotes six primary freight corridors throughout the Delmarva Peninsula. One of these corridors, known as the Coastal Corridor, is located in Kent County and consists of three National Highway System routes: US Route 13, Route 1, and US Route 113. Although not specifically named as part of the Coastal Corridor, Route 8 from the City of Dover west into Maryland, is also part of the National Highway System as seen in the map below.



Map found at [DelDOT Gateway](#)

Kent County has no passenger rail service. However; Kent County's rail freight opportunities provide commodity manufacturers another option regarding the transportation of goods and services. Kent County has one primary north-south rail line from Smyrna past Harrington into Sussex County. There is an east-west spur line from Harrington into Milford, which also continues south into Sussex county. The current operator of the 55 mile rail line portion in Kent County is the Delmarva Central Railroad (DCR), a subsidiary of Carload Express Incorporated (CEI). Primary commodities include coal, stone, and agricultural products.



Source: 2017 Freight Plan Addendum, P. 16

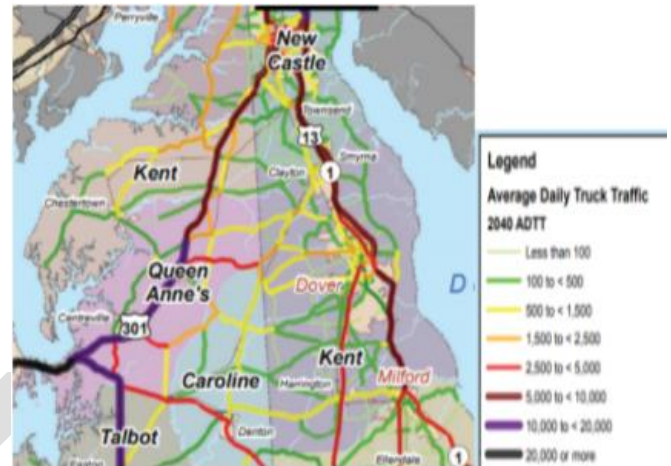
Future freight projections can be impacted by several factors such as fuel prices, global economies, changes in land use, and changes in consumer products just to name a few. Freight plans and studies such as the 2015 Delmarva Freight Plan attempt to identify these future projections. In addition to the 2015 Delmarva Freight Plan for example, FHWA provides a plethora of freight related sources open to the public. One link on their site goes to the U.S. Department of Transportation's (US DOT) [Bureau of Transportation Statistics](#) (BTS). This site provides several [freight related facts and figures](#) which is, "a collection of charts and statistical tables about freight transportation in the United States. These interactive visualizations and tables provide a snapshot of freight movement; the extent, condition, and performance of the freight transportation system; the economic characteristics of the transportation industry and its contribution to the U.S. economy; and the safety, energy, and environmental aspects of freight transportation." In fact, the below referenced, "Moving Goods in the United States Freight Analysis Framework" chart shows estimated freight tonnage in the US will increase at about 1.2 percent per year between 2018 and 2045. Further review of US domestic freight movement truck and rail (two main freight modes in Kent County, Delaware) [projections from 2018 to 2045](#), shows a 22% increase for truck use and 12% increase for rail use.

On page 1-46 in DelDOT's 2019 long range plan (Innovation in Motion), shows that total freight movement by trucks in 2023 will be 69.63%, and DOT's "Beyond Traffic 2045" plan states that, "by 2045, freight volume will increase by 40% (page 3).

On page 73 in the 2015 Delmarva Freight Plan Exhibit 4.8 (Delmarva Peninsula Truck Volume Summary (2040 ADTT)) shows US Route 13 from Smyrna south past Harrington, Route 1 from Smyrna south past Milford, and US Route 113 from Milford south into Sussex county projecting a range from 2,500 to 10,000 average daily truck traffic out to the year 2040.

As already addressed in this chapter, future US rail freight projections are expected to increase by 12% from 2018 to 2045 (note: pre covid-19 data). Kent County rail freight is expected to also increase unless future land use constraints as written in a 2018 study; "Dover / Kent County Metropolitan

Planning Organization Rail / Freight Zoning Study" limit future land uses for rail freight related manufacturing/employment centers in Kent County, Delaware.



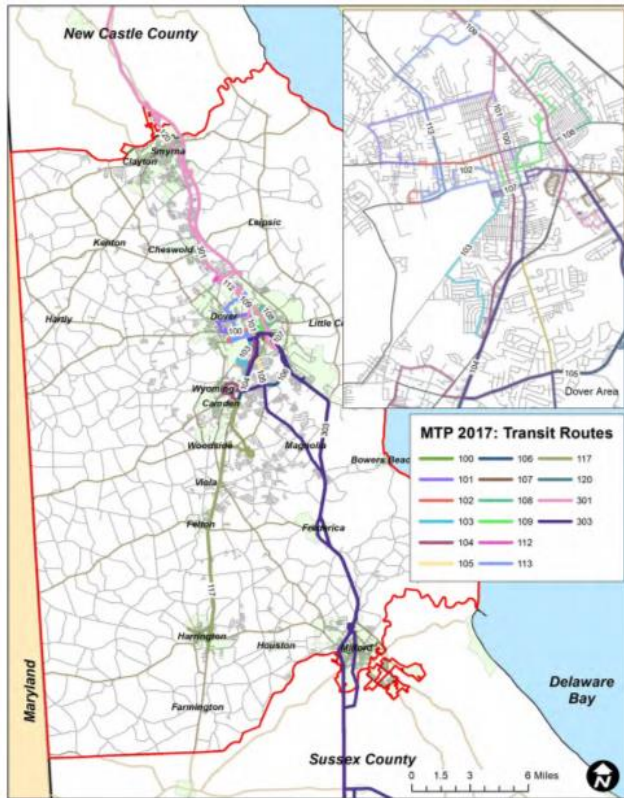
Source: 2015 Delmarva Freight Plan Exhibit 4.8 (Delmarva Peninsula Truck Volume Summary (2040 ADTT))

In 2019, the D/KC MPO sponsored two freight related transportation planning studies. The Freight Terminal Feasibility Study in Harrington addresses leveraging rail freight use along several large tracts of land for warehousing in addition to a potential truck transportation hub. The Kent County East/West Freight Corridor Study looked at three east/west road corridors (one in the northern sector of Kent County (Route 300); one in the center of Kent County (Route 8); and one in the southern sector of Kent County (Route 14). These three routes would traverse into and out of Maryland, linking into US Route 301. It is also important to note that these two freight studies are projected to be completed sometime in 2021, after the Innovation 2045 MTP is approved. Nonetheless, the current draft studies project corridor improvements to Routes 300, 8, and 14 to improve LOS and AADT for trucks along with a potential rail and truck terminal facility in Harrington.

Public Transit System

The Delaware Transportation Corporation (DTC), an operating division with the Department of Transportation, is the entity responsible for providing public transportation services within the MPO region. DART First State is the operator of the service. Within Kent County, 13 bus routes provide fixed-route, weekday transit service throughout the

central portion of the county. Five of those routes also provide Saturday service. Three inter-county routes travel through Kent County. Route 301 provides weekday daily service from Wilmington to Dover, while Route 303 provides weekday daily service from Dover to Georgetown in Sussex County. During the summer, Route 305 provides weekend service from Wilmington and Dover to Rehoboth Beach.



Transit use projections are influenced by many factors such as automobile ownership; land use density and mixture, proximity of the household to the downtown core, lower household income, and availability of high-quality transit service to name a few (City of Edmonton, 2016 P.2). For example, despite having an average 25.2 minute commute time, employees in Kent County still appear to favor their automobiles over mass transit. As shown in the chart below, total Kent County transit ridership has decreased from FY13 figures to FY19 figures by 25%.

Summary Ridership						
	FY01	FY05	FY09	FY13	FY17	FY19
	Ridership	Ridership	Ridership	Ridership	Ridership	Ridership
KC Fixed Route	301,623.30	340,856.00	468,517.00	662,233.00	481,332.00	503,222.00
I/C Fixed Route	103,153.00	83,448.00	51,407.00	72,444.00	42,290.00	48,649.00
	404,776.30	424,304.00	519,924.00	734,677.00	523,622.00	551,871.00

Similar to figures in the summary ridership chart above, ridership by bus route is down when comparing FY13 and FY19 figures. In fact, the 100, 103, 113, and 119 bus routes have been discontinued or modified as seen in the Ridership by Route chart below. Only routes 104, 106, and 112 increased ridership when comparing FY13 to FY 19 and these three routes are projected to continue ridership increases out to 2045.

Ridership By Route

This chart shows the routes included beginning with FY01. Prior historical data is not readily available. Route 305 had been included in the summary of historical data. It is excluded beginning in FY09.

Route	FY01	FY05	FY09	FY13	FY17	FY19
100			8,166.00	11,601.00		
101	31,397.09	40,685.76	47,192.00	54,760.53	40,973.00	49,744.00
102	35,685.46	25,190.23	39,218.00	44,503.00	31,246.00	31,453.00
103	18,761.95	21,209.85	28,339.00	44,250.00	12,978.00	
104	30,205.74	47,568.86	59,594.00	77,319.00	81,016.00	99,076.00
105	15,368.93	20,299.14	29,187.00	33,695.00	18,283.00	26,388.00
106	15,623.43	17,292.16	20,139.00	22,685.00	17,969.00	26,678.00
107	38,820.74	38,290.33	52,920.00	65,809.47	32,903.00	29,849.00
108	24,217.26	26,211.41	35,326.00	41,163.00	25,249.00	33,683.00
109	45,482.37	54,453.04	69,839.00	88,664.00	74,004.00	79,617.00
112	32,385.65	29,442.05	46,014.00	37,382.00	38,676.00	43,898.00
113	13,674.69	20,213.18	32,583.00	35,029.00	25,827.00	
117				24,144.00	22,743.00	21,057.00
119					3,357.00	
120				81,228.00	56,108.00	55,650.00
210						6,129.00
301	88,029.00	51,724.00				
303	6,835.00	21,679.00	38,064.00	72,444.00	42,290.00	39,688.00
307						8,961.00
304			13,343.00			
Shuttle	7,886.00	7,765.00				
	404,373.30	422,024.00	519,924.00	734,677.00	523,622.00	551,871.00
305	403.00	2,280.00	4,393.00	4,499.00	2,128.00	2,698.00
Total with 305	404,776.30	424,304.00	524,317.00	739,176.00	525,750.00	554,569.00
Per Summary	404,776.30	424,304.00	519,924.00	734,677.00	523,622.00	551,871.00

In summary, transit use in the D/KC MPO planning will increase out to 2045. Transit use can mitigate Clean Act (CAA) Ozone standards, help decrease the number of single occupied vehicles on the road, and provide another transportation mode to members of the community. Additional transit route planning in and around the City of Dover, Smyrna, Milford, and Harrington should be considered as these areas are expected to have population increases. Additionally, survey results as part of this Innovation 2045 MTP Update show that transit use can be enhanced with easier online resource tools and route markings.

Bicycle and Pedestrian System

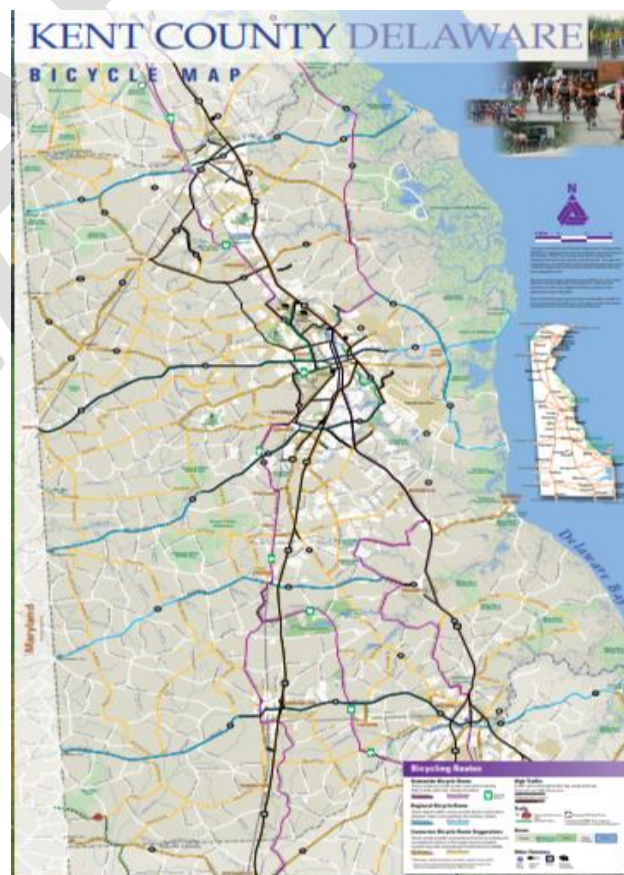
The D/KC MPO has actively supported Federal and State level bicycle and pedestrian planning efforts

especially those efforts from DeIDOT. Although separate programs at DeIDOT, the long range goals for bike and pedestrian are similar: improved safety by reducing injuries and fatalities; and improving network connectivity between modes. One method is to increase “Complete Communities” planning which include multi-modal, transportation, land use, urban design, and recreation ions (DeIDOT, 2019 P. II-15). In fact, DeIDOT’s Innovation in Motion long range transportation plan provides many bicycle and pedestrian strategies on pages II-43 through II-51 which not only helps DeIDOT with their long range goals, but guides the D/KC MPO regarding bicycle and pedestrian long range goals specific to Kent County.

Since being established 1992, the D/KC MPO has worked with many MPO partners (DeIDOT, the City of Dover, and City of Milford) to incorporate bicycle and pedestrian studies and projects into long range planning efforts for the region. Many of these studies can be found on the [resource tab at the D/KC MPO website](#) and provide recommended improvements and enhancements on or along the roadway system. In addition to bicycle and pedestrian study recommendations, DeIDOT utilizes Delaware’s Complete Streets Policy, which “highlights the benefits of a multi-modal system and ensures that any modifications are done in a way that provides safe and efficient access for all users” (DeIDOT, 2019, P. II-44). Bicycle and pedestrian study recommendations along with policy initiatives support the overall goal to foster a well-connected and safe bike and pedestrian system members of the community can utilize as healthy alternative transportation modes throughout Kent County.

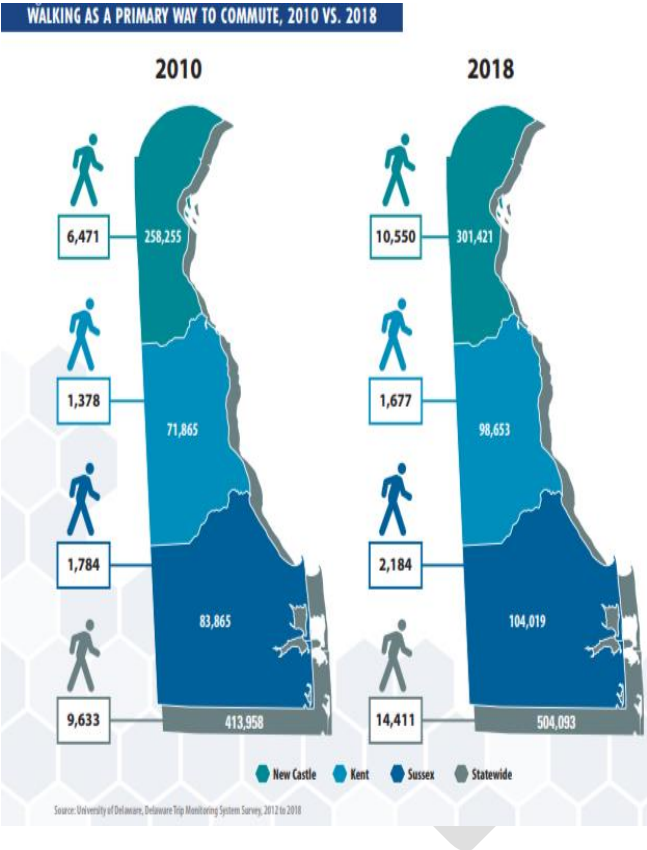
Specific to bicycling planning efforts, the D/KC MPO adopted its first Regional Bicycle Plan (RBP) in 2011 and proposed recommendations to improve the regional bicycle system in Kent County. The second D/KC MPO RBP was adopted in 2017 and used a 20-year planning timeframe (2017-2035) with prioritized recommended bicycle projects (12 in Dover, 5 in Smyrna-Clayton, 3 in Milford, 2 in Camden-Wyoming) along with recommendations for policies, ordinances, and other actions at the State, County or Local government level. In addition to the RBP, the D/KC MPO supported Bike Plans for the City of Dover and City of Milford.

Bicycling has a viable form of transportation and DeIDOT encourages cycling as a mode of transportation for both commuting and recreational purposes for residents and visitors (DeIDOT, 2019, P.II-43). In fact, in 2018 DeIDOT created and has since implemented a statewide policy plan called, “the Blueprint for a Bicycle Friendly Delaware” which, among other things, provides innovative bicycle design standards and guidance to assist planners and engineers in creating safe bicycle networks with three main goals: Develop a Complete, Comfortable, Connected Bicycle Network; Improve Bicyclist Safety and Confidence; and Foster a Culture of Bicycling that Benefits All Delawareans (DeIDOT, 2018. P.8). Additionally, “DeIDOT adopted a Level of Stress (LTS) approach for evaluating bike-able roads in Delaware. LTS uses a stress level scale (1-4) to rate each roadway based on its design, traffic volumes and speed limits and how these factors affect a bicyclist’s perception of safety and choice of route” (DeIDOT, 2019. P. II-43).



Pedestrian systems in Delaware are an important aspect to transportation planning. DeIDOT is responsible for the planning, design, construction

and maintenance of pedestrian facilities located within the state-owned public right-of-way (DeIDOT, 2019. PII-55). In addition as a leader in the Americans with Disabilities Act (ADA) pedestrian accessibility, DeIDOT’s design guide, “Pedestrian Accessibility Standards for Facilities in the Public Right-of-Way” provides criteria for the design of Pedestrian Accessible Routes (PAR) elements and ensures that pedestrian facilities are being consistently installed and updated to current ADA requirements (DeIDOT, 2019. P. II-55). Regarding future projections on walking to work, the below referenced chart from the University of Delaware shows an 18% increase from 2010 to 2018 in Kent County whereas New Castle County had a 39% increase and Sussex County had a 19% increase.



Although bicycle and pedestrian projects are identified within the D/KC MPO MTP, RBP’s and municipal Bike Plans, construction projects are at the Federal and State level. The [Blueprint for a Bicycle Friendly Delaware](#) document provides a nice flow chart regarding how projects are funded on page 105. Project funding includes both bicycle and pedestrian projects. Additional information on bicycle and pedestrian funding is found on the [Federal Highway Administration’s \(FHWA\) Bicycle](#)

[and Pedestrian Program](#). Federal-Aid Highway Program Funding for Pedestrian, Bicycle Facilities, and Programs are also found at this site. The following chart provides a snapshot of Bicycle and Pedestrian Obligations for Delaware by previous D/KC MPO MTP years.

2021 MTP Bike and Pedestrian Obligations 1999-2019								
	1999	2001	2005	2009	2013	2017	2019	1999-2019
Delaware Bike and Pedestrian Obligations	\$2,837,015.00	\$2,071,445.00	\$2,496,607.00	\$15,017,435.00	\$19,857,623.00	\$533,969.00	\$311,560.00	\$101,507,387.00

In summary, bicycle and pedestrian transportation projects will continue out to 2045. In addition to leveraging these projects as mitigation factors to meet Clean Air Act (CAA) Ozone standards and to improve safety factors for both bicycle and pedestrian transportation users, bike and pedestrian facilities will be incorporated into land use projects as part of the “Complete Communities” initiative.